

Remarks

Claims 1 through 29 are pending in the present application. By the present amendment, Claims 6, 8 and 9 have been amended. No new matter has been entered.

Claim Objections

Claims 6, 8 and 9 are objected to due to informalities. By the present amendment, these informalities have been corrected.

Claim Rejections - 35 USC § 112

Claim 29 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. By the present amendment, the Applicant has corrected the antecedent basis problem.

Claim Rejections - 35 USC § 102

Claims 1 through 19, 24, 25 and 27 through 29 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4,904,547 to Mizumoto et al (hereinafter the '547 patent). In the present Office Action, the Examiner indicates at page 4 thereof that some of the claimed attributes have been recited functionally rather than structurally. The Examiner points out, for example, that the controller of original claim 1 is "programmed to control" a function of the condition signal. The Examiner additionally alleges instances of functional recitation in dependent claims 14, 15, 17, 18 and 19.

By the present amendment, the Applicant positively recites structural attributes of the vent valve controller of independent claims 1, 27, 28 and 29, including how the controller cooperates with other claimed features (such as an anode field vent valve and a condition monitor) of the fuel cell to adjust dilution gas concentration in the fuel cell's anode flowpath through selective manipulation of the vent valve based on the controller's calculation of a dilution gas crossover rate for the fuel cell. The Applicant respectfully submits that the positive recitation of structural attributes of the controller and vent valve and their mutual cooperation must be considered by the Examiner, and that such a

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device as that presently claimed is neither taught nor suggested by the '547 patent, which is configured to replace fuel and air at the respective fuel cell electrodes with nitrogen at system shutdown. MPEP 2131 requires that an anticipatory reference must include every limitation of the claimed device, and since there is nothing in the '547 patent to teach or suggest a device with a selectively opened and closed anode flowpath valve to keep a nitrogen concentration in the flowpath to within prescribed limits, the Examiner can no longer rely upon the '547 patent as an anticipatory reference.

Claim Rejections - 35 USC § 103

Claims 20 through 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '547 patent in view of US Patent 6,103,409 to DiPierno Bosco et al (hereinafter the '409 patent). Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over the '547 patent in view of US Patent 5,460,896 Takada et al (hereinafter the '896 patent).

One of the bedrock principles of a prima facie case of obviousness is that all claim limitations must be taught or suggested, as discussed in MPEP 2143.03. Under the weight of this authority, and because the present amendments to the independent claims recite a unique combination of controller and vent valve features that none of the cited references, either alone or in combination, teach or suggest, continued reliance upon the cited references is no longer availing. Thus, irrespective of which other claimed features may or may not be taught by the '547, '409 and '896 patents, the lack of a controller and vent valve combination in the cited references prevents their use from forming the basis for an obviousness rejection.

In conclusion, the Applicant respectfully submits that the amended independent claims are in condition for allowance. Furthermore, since all of the claims that depend from the independent claims place further limits thereon, the Applicant is of the belief that they too are in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal

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matters or to discuss any aspects of the application or of this response. Otherwise, notification of allowable subject matter is respectfully solicited.

Respectfully submitted,

By /John D. Reed/
John D. Reed
Registration No. 46,506

DINSMORE & SHOHL LLP
One Dayton Centre
One South Main Street, Suite 1300
Dayton, Ohio 45402
Telephone: 937/449-6400
Facsimile: 937/449-6405

JDR/AMM